

Applying Classroom Assessment Techniques



This job aid is designed to help you develop some assessment techniques that you can use with your students. By applying these techniques, you can find out what students are learning almost immediately and make changes as early as the next lesson.

After using this job aid, you should be able to:

- use seven techniques to assess instruction
- identify the five assumptions about teaching and learning provided by Cross and Angelo
- distinguish between classroom assessment techniques and traditional evaluation
- plan for classroom assessment techniques
- use various classroom assessment techniques.





The five assumptions about teaching and learning

Patricia Cross and Thomas Angelo, in their book *Classroom Assessment Techniques: A Handbook for Faculty*, made five assumptions about teaching and learning. They based their research on these five assumptions.

Assumption 1

The quality of student learning is directly, although not exclusively, related to the quality of classroom teaching. Therefore, the first and most promising way to improve learning is to improve teaching.

Assumption 2

To improve their teaching, teachers need to make their goals and objectives explicit. They also need to receive specific, comprehensible feedback on the extent to which they are achieving those goals and objectives.

Assumption 3

The research most likely to improve teaching and learning is that conducted by teachers on questions they themselves have formulated in response to problems or issues in their own teaching.

Assumption 4

Inquiry and intellectual challenge are powerful sources of motivation, growth, and renewal for college teachers, and classroom research can provide such challenge.

Assumption 5

There is nothing so esoteric, mysterious, or fragile about classroom research that it cannot be entrusted to and done by anyone capable of and dedicated to college teaching.

Search for patterns

Do you agree with all five assumptions?

Do they all apply to your teaching situation?

Are there any other assumptions you could add to the list?



Distinguish between classroom assessment and traditional evaluation

Before you examine the classroom assessment techniques in this unit, let’s take a look at what classroom assessment is, and how it’s different from traditional methods of evaluating student learning.

Traditional methods of evaluating student learning usually occur at the end of the term, when it is too late to make any changes. They are also very threatening to students because they are normally graded and will affect their success in the course.

Classroom assessment techniques, on the other hand, are non-threatening ways of evaluating student learning and their reaction to your teaching methods. The purpose of classroom assessment is to enable both instructors and students to mutually improve learning.

These differences are summarized in the table below. Feel free to add your own ideas.

Classroom Assessment vs. Traditional Evaluation	
Classroom Assessment	Traditional Evaluation
<ul style="list-style-type: none"> • student centred • active • context and content specific • • • • • 	<ul style="list-style-type: none"> • content centred • passive • content specific • • • • •

Plan for Classroom Assessment Techniques

Before we discuss how to use classroom assessment techniques, it is important that you feel comfortable doing this kind of assessment. Not all teaching styles are the same; neither is assessment universal. The following five guidelines by Cross and Angelo (1988, pp 9-10) reinforce this.

Five Guidelines

1. Don’t try any technique that doesn’t appeal to your intuition and your experienced judgement as a teacher.
2. Don’t make self-assessment into a self-inflicted chore or burden.
3. Do choose techniques that will benefit both you and your students.
4. Don’t ask your students to use any technique you haven’t previously tried yourself.
5. Do remember that administering an assessment technique and analysing the feedback will probably take twice as long as you estimate.



Planning

Knowing what you are looking for will help to determine which technique to choose, and how to interpret the results. Therefore, before using any technique, complete a planning worksheet like the one following.

Classroom assessment planning sheet

1. What do I want to know?

2. Which technique will I use to get this information?

Why?

3. How will I introduce this technique to my students?

4. How much class time will it take?

5. How will I know if the technique was successful?

6. What instructional changes will I make as a result of the information I receive?



Use various classroom assessment techniques

The classroom assessment techniques listed below were selected and adapted from Cross and Angelo's book *Classroom Assessment Techniques: A Handbook for Faculty*.

The muddiest point

This technique will help you determine which key points were missed by the students.

The Muddiest Point

In today's session, what was least clear to you?

Adapted from Cross & Angelo (1998)

When and how to apply it

- Apply this technique after a lecture or after the class session.
- Hand out the cards to the students and give them about 3 minutes to respond anonymously.
- Don't use this method after every class or it will become monotonous and the information won't be as useful.



One-minute paper

This is a useful technique because it is anonymous and encourages the quieter students to ask questions.

One-minute Paper

1. What was the most useful or the most meaningful thing you learned this session?

2. What question(s) do you have as we end this session?

Adapted from Cross & Angelo (1998)

When and how to apply it

- The one-minute papers (or as many minutes as you like) can be used after a class or at the beginning of a class to review the previous session.
- Student answers to question 1 indicate whether you met your goal for the session. Student answers to question 2 indicate which parts of the lesson you may need to review.



Listing

Use this technique when you want to assess retention.

List 5-7 words or short phrases that define or describe what _____ means to you.

Adapted from Cross & Angelo (1998)

When and how to apply it

- Use this technique just after a class, or later for review purposes.
- You can limit the number of items you are looking for, the time allowed, or both.
- When you review the cards, compare the points on the students' lists to those you hoped they would include. If there are noticeable omissions you know what to review.
- Remember that this technique will only enable you to discover what they recall, it doesn't indicate whether they fully understood.



Application cards

This technique helps you to determine if the students really “understand” the material you have just taught them.

Applications	
List the knowledge or skills you have learned during this session in the left column then list some possible applications in your life.	
knowledge or skill	possible application

Adapted from Cross & Angelo (1998)

When and how to apply it

- After a class or unit of instruction, hand out the cards to the students and allow them about 10 minutes to respond anonymously.
- The information will show you whether the students have just memorized the material or if they know how they could use it.
- If any problems or trends are obvious, you can discuss them with the class.



Memory matrix

A matrix is simply a square or rectangle which is divided into horizontal rows and vertical columns. You can include as many rows and columns as you like. The purpose is to assess the students' recall of information and their ability to categorize it.

Memory Matrix		

Adapted from Cross & Angelo (1998)

When and how to apply it

- This technique can be used after a lesson, or later as a review. It can also be used as a pre-assessment tool.
- Write in the appropriate row and column headings and leave the cells blank.
- Set a time limit (10 minutes is probably adequate) and instruct the students to fill in the blank cells with as many correct words as they can think of. You could also set a limit on the quantity of words (e.g. 2 words per cell).
- When reviewing the cards, look for patterns. Where did they do well? Where did they do poorly?



One-sentence summaries

One-sentence summaries can determine if your students understand the full meaning of a topic. By answering the seven questions, they can write one sentence which sums up the topic. These summary sentences will help you assess their understanding and will also help the students organize their thoughts.

<p>WWW H WWW</p> <p>Who? _____</p> <p>Does what? _____</p> <p>To what? Or whom? _____</p> <p>How? _____</p> <p>When? _____</p> <p>Where? _____</p> <p>Why? _____</p>

Adapted from Cross & Angelo (1998)

When and how to apply it

- Select an important topic that you would like them to summarize and allow them 10-15 minutes at the end of a class.



Summarizing

The summarizing technique shows what your students learned from a lecture or reading assignment. It also helps to develop their communication skills.

In no more than three concise sentences, summarize what you've learned about _____ so that you could explain it to a friend.

Adapted from Cross & Angelo (1998)

When and how to apply it

- This technique is used most effectively in class, but can also be used as a homework assignment. However, students may not do the homework diligently if they know it won't be graded.
- You may need to practise this technique a few times with the students before they become skilled at using it.
- The students can also be taught to focus their thoughts to particular groups or individuals (e.g. clients, co-workers, supervisors, the general public).
- The students can keep a copy for studying.

How it works (an example)

The scene

Glen, a newly hired Machine Shop instructor, was unsure of his classroom instruction. He felt very comfortable in the shop and had no difficulty demonstrating how to operate equipment. However, he had no formal instructional training and was not confident about presenting theories and concepts.

The problem

Typically, Glen would present the theory and describe procedures for fabricating a project while in the classroom. He would then move his class into the shop to make the project hands-on. Although the students could manually perform the task, they often made mistakes because they misunderstood the theory.

The solution

Glen decided to try one of the classroom assessment techniques. He chose the *One-Minute Paper* because it was quick, easy and he wasn't able to devote much class time to it.

After the next classroom lecture, he distributed the *One-Minute Papers* to the class. He reviewed the responses that evening. To his surprise and delight, few students had unanswered questions. However, almost all of the students identified the same piece of information as being "the most important." The problem was, it was the wrong piece of information.

The next day, he discussed their responses and reviewed the important part of the lesson. When they moved to the shop later, the projects were completed faster and better than usual.